A new species of *Pultenaea* (Fabaceae) from central Victoria

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Abstract

A new species, *Pultenaea dargilensis* Corrick & N.G.Walsh is proposed for a geographically restricted entity from near Heathcote in central Victoria, which until now has been referred to *P. pedunculata* Hook. The new species is described and illustrated, and its habitat and conservation status discussed. The typification of *Pultenaea pedunculata* var. *pilosa* H.B.Will. is clarified.

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Introduction

Pultenaea pedunculata is typically a mat-forming shrub with axillary flowers usually borne singly on slender pedicels clearly exceeding the subtending leaf. Its leaves are typically narrowly elliptic, 4–13 mm long, darker on the upper surface with stomata confined to the lower surface, and the margins are recurved. The calyces and leaves, at least when young, are hairy with ascending to antrorsely appressed hairs. It is scattered through usually dry open forest from southern New South Wales, through central Victoria, extending to south-east South Australia and Tasmania. It belongs to section *Eupultenaea* of Bentham (1864), Group IX of Sands (1975) and 'the eastern species with recurved leaves' of de Kok and West (2004).

H.B. Williamson (1922) wrote at length about the variation in *Pultenaea pedunculata* Hook., giving reasons for including *P. ausfeldii* Regel as a synonym. In the same work he erected two new varieties, var. *latifolia* H.B.Will., based on material collected from Port Lincoln, South Australia, and var. *pilosa* H.B.Will., based on material collected from Chewton, central Victoria. De Kok and West (2004) indicated that the type of var. *pilosa* was at MEL. However at that point there were no specimens of *P. pedunculata* at MEL explicitly noted as being collected from Chewton. A fragment, previously amongst Williamson's extensive handwritten notes on *Pultenaea*, has been found and is now mounted as a type (MEL 648096). It is annotated in Williamson's hand as 'var. *pilosa*' and it accords with other specimens of *P. pedunculata* at MEL collected from the general vicinity of Chewton in the calyces, pedicels and at least younger stems with sparse to moderately dense, ascending to antrorsely appressed hairs. Williamson's diagnosis for var. *pilosa* gave '*calyce et pedunculis sericeo-pilosis, foliis paulo recurvatis*', features present on MEL 648096. It is reasonable to suppose this is in fact Williamson's type. There appear to be no isotypes at MEL or in other herbaria.

We concur with Thompson (1961) and de Kok and West (2004) in regarding var. *pilosa* as part of the continuous variation to be found within *P. pedunculata* which has the calyces and pedicels quite glabrous to moderately densely covered with antrorse to forwardly appressed

hairs. Similarly, Williamson's var. *latifolia*, with relatively broad leaves, long calyx lobes, long pedicels and occurring mainly in the western part of the species' range isn't clearly distinguishable.

Mounted as possible types of *P. pedunculata* var. *pilosa* at MEL are two (presumed) 1861 collections of H. Beckler's from the Pyalong area ('Road to Pyalong', MEL 2156648; 'Hill near Pyalong', MEL 2156649). These too have been annotated, apparently by Williamson, as 'var. *pilosa*', but the indumentum of the calyces, pedicels and stems is dense and spreading, or sometimes on the stems, somewhat retrorse, certainly not sericeous, and generally quite distinct from the indumentum to be found on the 'Chewton' type or any other material of *P. pedunculata* across its geographic range. Although Williamson annotated the Beckler collections he apparently did not observe the difference in the indumentum. As there are no Williamson collections at MEL that match the fragmentary Beckler specimens, it could be assumed that he did not himself collect from the same population, otherwise one would expect him to have noticed the very obvious differences in habit and generally dull green appearance of the foliage, compared with the distinctive bright green of typical *P. pedunculata*.

We have located a population of plants matching those represented by the Beckler Pyalong collections in the Dargile State Forest, near Heathcote, and approximately 28 km NNW from Pyalong. The plants in this population are uniform in habit, and rather than dense and ground-hugging which is the typical habit for *P. pedunculata* (giving rise to the common name 'matted bush-pea'), are finally loosely decumbent or procumbent, or when young weakly erect. The foliage, almost grass-green and often sub-lustrous in typical *P. pedunculata*, is dull grey-green in the Dargile Forest plants. We believe these plants to be sufficiently distinct to warrant taxonomic recognition. We do not believe they form part of an entity represented by Williamson's diagnosis or type specimen of var. *pilosa* and consequently we reject the Beckler collections as type material of that entity. We regard the combined

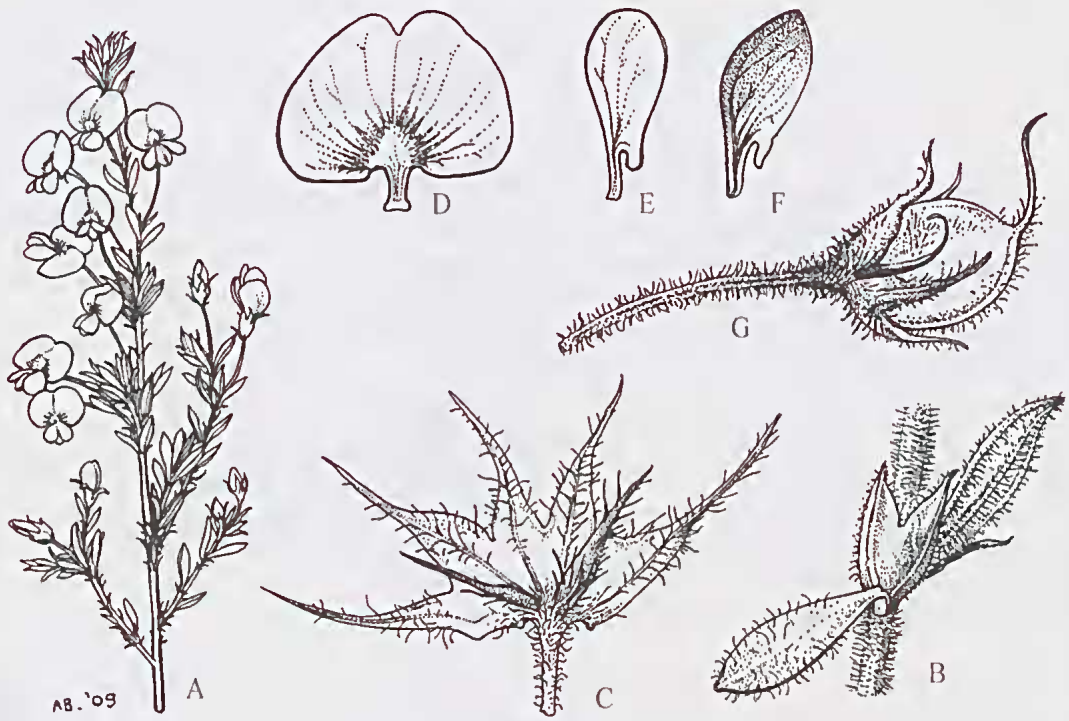

Figure 1. *Pultenaea dargilensis*: **A.** flowering twig x1; **B.** section of stem with leaves and stipules x 6; **C.** calyx with bracteoles x6; **D.** standard x4; **E.** wing petal x4; **F.** keel petal x4; **G.** young pod x5. A-F from *Corrick 11609* (MEL); G from *Corrick 11610* (MEL).

differences in habit and indumentum as being sufficiently distinct to recognise these plants as a distinct species.

Taxonomy

Pultenaea dargilensis **Corrick & N.G.Walsh,** *sp. nov.*

A P. pedunculata *habitu non prostrata, et indumento calycum pedicellarum et ramulorum denso et patento vel retrorso differt.*

Type: Victoria: Dargile State Forest, 7 km NNE of Heathcote, 14.x.2001, *M.G.Corrick 11609.* (holotype MEL; isotype CANB).

Loosely decumbent or procumbent *shrub* to c. 30 cm high and to c. 60 cm diam. Indumentum of *stems* spreading to somewhat retrorse with hairs in 2 size classes, c. 0.1 mm and 0.5 mm long. *Stipules* lanceolate, 2–2.5 mm long, initially connivent in proximal 1/3. *Leaves* narrowly elliptic to oblanceolate, 4–8 mm long, 1–1.8 mm wide, initially densely pilose with fine spreading hairs to c. 1 mm long, glabrescent, but older leaves usually retaining some hairs at least on the abaxial surface; adaxial surface finally minutely tuberculate; margin plane to slightly recurved; midrib prominent on abaxial surface; mucro to 0.8 mm long, straight or very slightly decurved. *Pedicels* 5–10 mm long, densely indumented with short, spreading hairs. *Bracteoles* linear, 3–4 mm long, pilose; *calyx* 4–5 mm long, prominently 5-nerved, densely covered throughout with spreading hairs 0.5–1 mm long; *lobes* narrow-subulate, 3–3.5 mm long; *standard* 6–7 mm long at anthesis, orange with red to brown basal flare, wings orange, keel wholly red to brown. *Pod* broad-elliptic, c. 5 mm long, 4 mm wide, shortly and evenly pilose. *Seeds* 1 or 2, reniform, c. 2 mm long. Figs 1, 2.

***Specimens examined*: VICTORIA.** Hills near Pyalong, 6.x.1861, *H. Beckler 100* (MEL); Road to Pyalong, 6.x.1861, *H. Beckler* 6 (MEL); Dargile Reserve, 27.ix.1987, *P.C. Jobson 119* (MEL); Dargile State Forest, 18.x.2003, *N.G. Walsh 5860* (CANB, MEL, NSW); Heathcote-Graytown National Park, 20.xi.2005, *M.G. Corrick 11610* (CANB, MEL, NSW).

Distribution and habitat: Known only from the Dargile Forest, some of which is now incorporated into the Heathcote-Graytown National Park. Grows in box-ironbark forest on clay-loam soils derived from Devonian sediments. Associated species include *Eucalyptus microcarpa* (Maiden) Maiden, *E. tricarpa* (L.A.S.Johnson) L.A.S.Johnson, *Acacia pycnantha* Benth., *A. acinacea* Lindl., *Cassinia arcuata* R.Br., *Hibbertia exutiaces* N.A.Wakef., *Brachyloma daphnoides* (Sm.) Benth., *Arthropodium strictum* R.Br., *Dianella admixta* Gand.

Figure 2. Habit photograph of *Pultenaea dargilensis*.

Conservation status: The new species is currently known only from the one population which occupies c. 50 ha. The population is included within a national park. A conservation code of CR (Critically Endangered sensu IUCN 2001) is considered appropriate on the basis of the small, solitary population, but we have no evidence of population decline to date. On the basis of Beckler's early collections from the Pyalong district, it is possible that further populations await (re)discovery, however it is likely that other populations have been lost due to land clearance.

Phenology: Plants have been collected in flower in October and November, and in fruit in late November.

Notes: The new species is readily distinguished from *P. pedunculata* by its semi-erect to procumbent habit and its conspicuous, spreading or somewhat retrorse indumentum of stems, pedicels, calyces and at least young leaves. The latter is a species encompassing significant variation in leaf size and shape and indumentum density, but most of this variation is continuous across the geographic range of the species from Port Lincoln in South Australia, to near Newcastle in New South Wales and through eastern Tasmania.

Typical *P. pedunculata* is known from localities within at least 20 km of the site where *P. dargilensis* grows and is locally abundant at e.g. Pyalong and Redesdale, but the two are not sympatric.

Etymology: The epithet refers to the Dargile Forest near Heathcote in central Victoria, currently the only known locality for the species.

The following couplets modify the key to *Pultenaea* in the *Flora of Victoria* (Corrick 1996) to allow identification of *P. dargilensis* against *P. pedunculata*.

2	Flowers 1 per leaf axil (rarely 2) on distinct pedicels, usually much longer than leaves; shrubs mat-forming to decumbent	**2a**
2:	Flowers terminal, forming a condensed raceme or head-like cluster (occasionally solitary), sessile or shortly pedicellate; shrubs not mat-forming, mostly ± erect	**3**
2a	Shrubs mat-forming, variously hairy with antrorse to appressed hairs	**1. *P. pedunculata***
2a:	Shrubs not mat-forming, loosely procumbent or decumbent; stem hairs spreading to somewhat retrorse in 2 classes c. 0.1 mm and 0.5 mm long	***P. dargilensis***

Acknowledgements

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